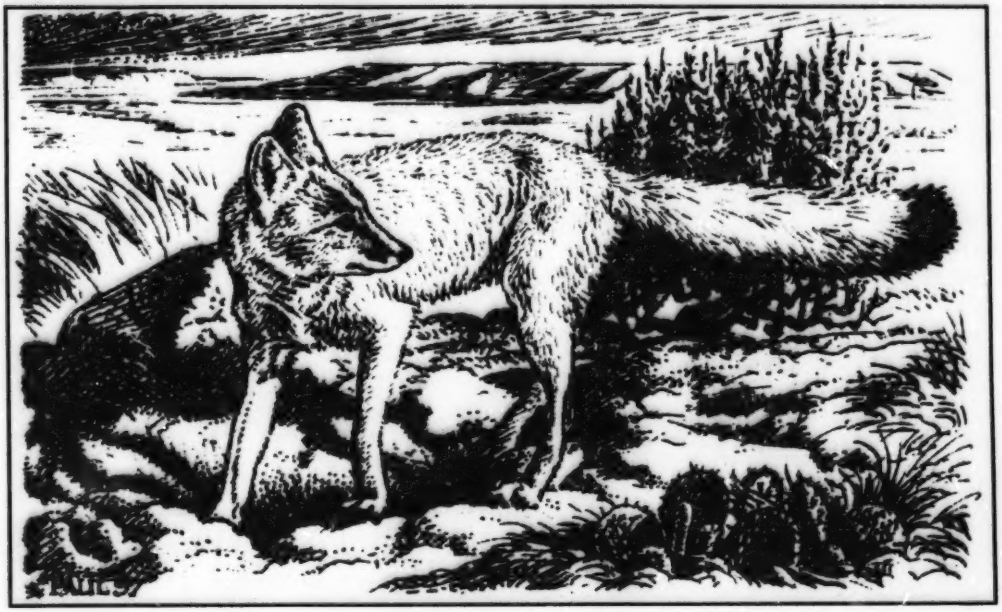
SASKATCHEWAN

Swift Fox

(Vulpes velox)

Status: Endangered

Species at Risk



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Description

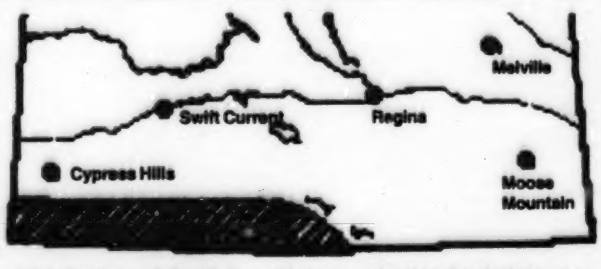
The Swift Fox is the smallest of the North American wild dogs. The species is named for its speed. It is well adapted for speed with its lean, long body and long legs. Some individuals have been recorded at speeds of more than 60 kilometers an hour.

Adults weigh between two and three kilograms. They have a total body length of 84 centimeters of which the tail makes up 28 centimeters. They stand about 30 centimeters tall. Swift Foxes are a soft grey colour with an orange or tan tinge on the legs and lower body. The throat, chest, and belly are white to buff brown in colour. They have large ears (8 centimeters) and dark bright eyes.

Characteristic features that distinguish the Swift Fox from the Red Fox (*Vulpes vulpes*) are its small size, the black spots on its muzzle, the grey back, and the long black-tipped bushy tail.

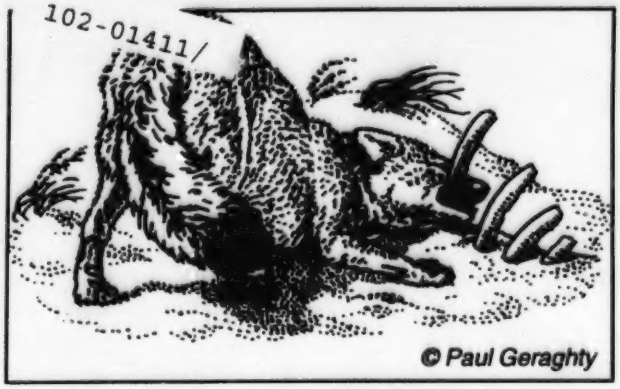
Status

In 1978, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed the Swift Fox as extirpated. Due to reintroduction programs, the Swift Fox was down-listed from extirpated to endangered in 1999. The Swift Fox is given full protection on private, provincial, and federal lands under Section 52(1), part (V) of the *Wildlife Act*, 1997. In addition, Section 5(1) of the *Wild Species at Risk Regulations (1999)* provides protection for Swift Fox dens.



Distribution of Swift Fox *(Vulpes velox)* in Saskatchewan from 1983 to 1999.

(Data from the Saskatchewan Conservation Data Centre.)



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The Swift Fox was once common across the Canadian plains. Its range extended from Pembina Hills in southwest Manitoba to the foothills of the Rocky Mountains and south to Texas. The Swift Fox declined rapidly in the late 1800's and early 1900's. Between 1853 and 1877, the Hudson's Bay Company averaged 4,681 Swift Fox pelts each year. By the early 1920's they averaged 500 pelts per year. In 1928, the last Canadian specimen was killed in Govenlock, Saskatchewan.

Reintroduction of the animal to the Canadian wild began in 1983. Between 1983 and 1997, 942 Swift Foxes were released in southern Alberta and Saskatchewan. Small populations have become established in these areas resulting in the Swift Fox being down-listed from extirpated to endangered.

Habitat

Swift Foxes prefer short or mixed-grass prairie with sparse vegetation and flat to gently rolling terrain. These conditions allow for good mobility and visibility for hunting prey and avoiding predators. Native grasses and shrubs common in these areas include blue grama grass (*Bouteloua gracilis*), spear grass (*Stipa comata*), fescue grass (*Festuca spp.*), and pasture sage (*Artemisia frigida*). These animals usually avoid coulees, brushy areas, and cultivated lands. Swift Fox habitat must include extensive tracts of native grassland, burrowing mammals, and suitable soil types for denning.

Multiple den sites may be used throughout the year for shelter, rearing young, and as escape routes from predators. Swift Foxes will modify existing burrows dug by Badgers (*Taxidea taxus*) and Richardson's Ground Squirrels (*Spermophilus richardsonii*). The presence of these animals is considered crucial, although Swift Foxes will also dig new dens.

Life Cycle

Swift Foxes are opportunistic feeders; this means that they will eat whatever is available to them. Swift Fox mainly eat mice, cottontail rabbits (*Sylvilagus floridanus*), and carrion (dead animals). Other foods include small mammals, birds, insects (grasshoppers and beetles), reptiles, and amphibians. Usually the Swift Fox relies on stealth (moving with extreme care and quietness) to catch its prey, but occasionally its speed allows it to catch a jackrabbit (*Lepus townsendii*).

Swift Foxes are mainly nocturnal. Daytime activity usually occurs only in the den. Adults can sometimes be seen sunning themselves near their dens (mornings and evenings during the summer, and in midday during the winter). The Swift Fox is a very curious animal. This trait makes it susceptible to trapping and poisoning and probably contributed to its disappearance.

Dens are used by Swift Foxes throughout the year for protection, as well as giving birth to and rearing pups. Simple dens with a single burrow and entrance are thought to be used mainly for protection. More complex dens with interconnected tunnels and multiple entrances are used for raising (whelping) pups.

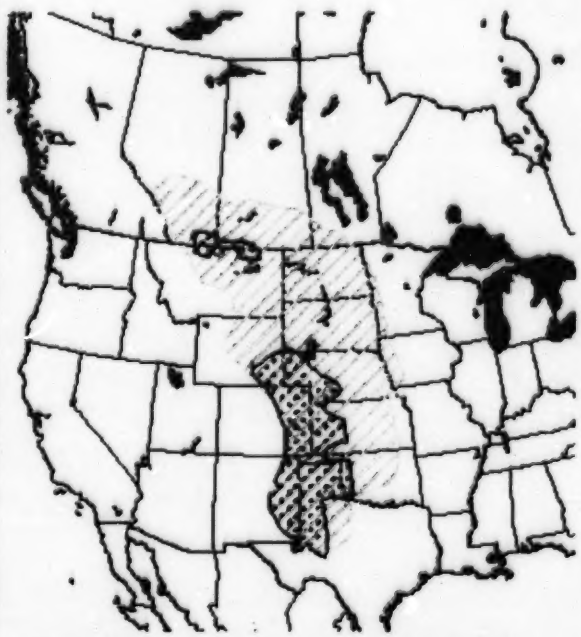
Young foxes can breed in their first year. Swift Foxes usually mate for life, but some observations have been

Swift Fox Historic and Current Ranges
(Vulpes velox)

LEGEND

current range (1997-1999)

historic range



(adapted from Saskatchewan Conservation Data Centre, 1999, COSEWIC 1998 and Cotterill 1997).

made of one male with two females. Breeding occurs from January to March and gestation is approximately 50 days. Pups born in captivity in Canada are usually born from mid-April to mid-May. The average litter contains four or five pups, but the number can vary from one to eight.

The pups are born blind and helpless and completely rely on their mother, who stays under ground with them while the male hunts for food. Their eyes open around 10 to 15 days after birth and, at two weeks old, the pups weigh around 200 grams. The pups are weaned (quit drinking mother's milk) when between six and seven weeks old. Two months after birth, they look like adults. Adult foxes will often move pups to different dens throughout the summer because of parasites such as mites, fleas, and ticks which may build up in large amounts in dens. Human disturbance will also cause foxes to change dens.

Young foxes stay with their parents between four and five months. They leave in early fall. When population densities are low, the pups may establish territory near their parents. If habitat around their parents' territory is already occupied, they have been known to travel up to 80 kilometers in search of a new home. In the wild, Swift Foxes can live between eight and ten years. In captivity they have been known to live up to 13 years.

Limiting Factors/Recovery Needs

The extirpation of the Swift Fox was primarily caused by human disturbances.

Habitat loss:
They require large areas of native prairie. As agricultural activities began to increase, native prairie was converted into cultivated crops. Habitat loss led to the decline in the Swift Fox population.

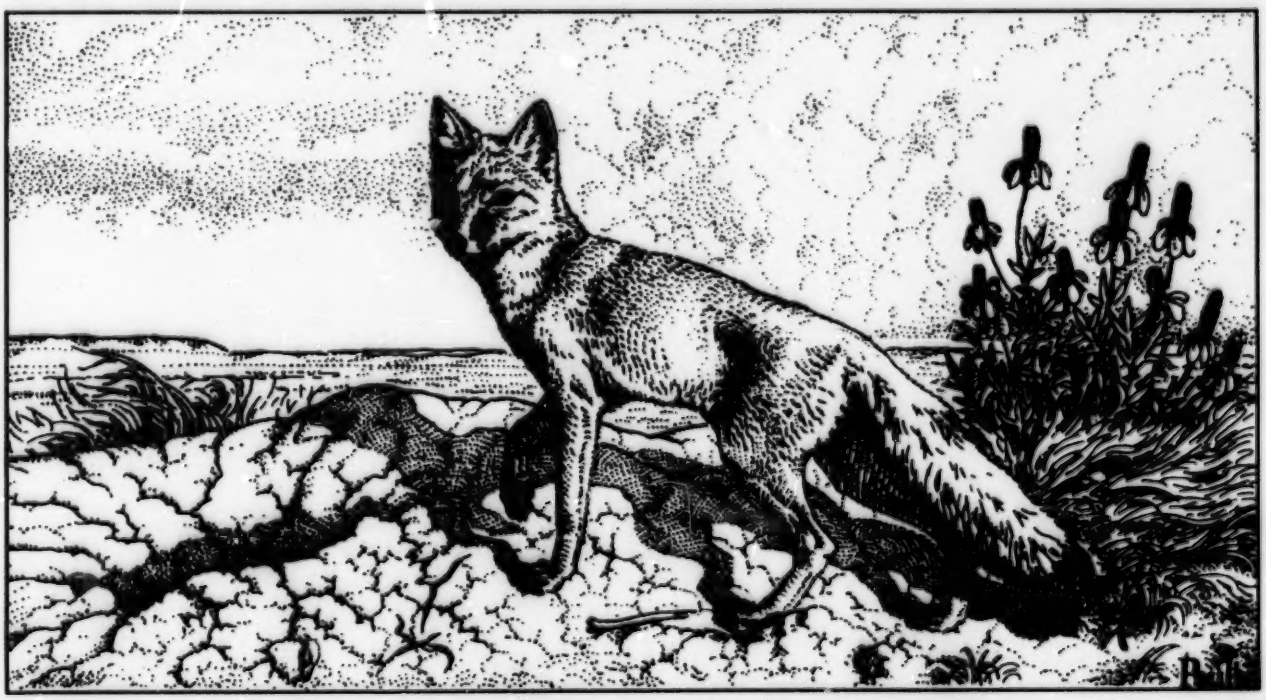
Hunting, trapping, predator, and rodent poisoning also contributed to the extirpation of the Swift Fox. Swift Foxes were victims of poisoning campaigns directed at other animals such as coyotes (*Canis latrans*), wolves (*Canis lupus*), and ground squirrels.

The main factor threatening the reintroduction of the Swift Fox is *predation.* Canada's Swift Fox population has an annual mortality rate of one third to one half. Coyotes are responsible for 80 percent of these deaths. Scientists think coyotes may see foxes as competitors for food and space because they kill but seldom eat them, a common behaviour among predators sharing a habitat.

Recovery Actions

Captive breeding
Efforts to bring back the Swift Fox began in 1973 when Miles and Beryl Smeeton imported two pairs of Swift Foxes from Colorado and established a captive breeding program. The Smeetons are owners of the Wildlife Reserve of Western Canada (now the Cochrane Ecological Institute) located near Cochrane, Alberta.

Reintroduction
In 1983, a program was initiated to reintroduce the Swift Fox to parts of its historical Canadian range. Organizations actively involved included the Canadian Wildlife Service, the University of Calgary, Cochrane Ecological Institute, the Calgary Zoo, World Wildlife Fund, Swift Fox Conservation Society, Parks Canada (Grasslands National Park) and the Saskatchewan and Alberta governments.



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Recovery goals

In 1989 the National Swift Fox Recovery Program was established by RENEW (Recovery of Nationally Endangered Wildlife).

The first task was to conduct a three year study to determine if suitable habitat still remained in the Canadian prairies for the Swift Fox.

Following the study, a National Recovery Plan was developed for the species in 1996. The primary goal of the plan was to remove the Swift Fox from the endangered species list by increasing populations to self-sustaining levels by the year 2000.

Long term objectives of the recovery plan are to:

1. establish two geographically separated core populations by the year 2000;
2. identify and secure key Swift Fox habitat on two core areas of the Canadian prairies;
3. ensure the establishment of the Swift Fox in at least 50 percent of its remaining suitable habitat on the Canadian range.

Between 1983 and 1997, approximately 942 Swift Foxes were released in Canada. During the reintroduction program, both wild-born and captive-raised foxes have been used. Captive-reared foxes were supplied by the Cochrane Ecological Institute, Calgary Zoo, Edmonton Valley Zoo, and the Moose Jaw Wild Animal Park. Between 1992-1997, the program focused on releasing wild-born foxes whenever possible. Swift Foxes captured in the United States were translocated to Canada and used for both captive breeding and wild releases. Research has shown that wild-born animals have a better survival rate, reproduce more successfully, and cost less than captive-reared animals.

Protection

In 1997, the Swift Fox was given full protection in Saskatchewan on private, provincial, and federal lands under section 52(1), part V of the *Wildlife Act*. Swift Fox dens are also protected under section 5(1) of the *Wild Species at Risk Regulations* (1999).

Success

No animals have been released since 1996. A census on the Canadian Swift Fox population (by live trapping and then releasing) was conducted in 1996-1997, as part of the Swift Fox national recovery plan. The purpose was to evaluate the success of the reintroduction. The population was estimated to be around 289 foxes. The Swift Fox population is currently being assessed and population estimates should be updated in 2001. Initial data is promising, suggesting that Swift Fox populations are increasing. This census should evaluate the viability of the population, and determine if more releases are required to reach the sustainable population goals.

Selected References

Please contact your local library or visit the Internet sites below for more information on the Swift Fox.

Alberta Environment. 1999. Swift fox. [Online]
http://www.gov.ab.ca/env/fw/threatsp/fox/sta.html
Last visited: March 16, 2001

Carbyn, Ludwig N. 1998. Update COSEWIC status report on swift fox (Vulpes velox). The Committee on the Status of Endangered Wildlife in Canada. 62pp.

Environment Canada. 1999. Hinterland who's who: swift fox. Canadian Wildlife Service. [Online] http://www.cws-scf.ec.gc.ca/hww-fap/fox/fox.html
Last visited: March 16, 2001

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